**PROJECT REPORT OF INDUSTRY ORIENTED HANDS-ON EXPERIENCE (IOHE)**

**ON**

ShopSavvy

**submitted in partial fulfilment of the requirements for the award of degree of**

**BACHELOR OF ENGINEERING**

**In**

**COMPUTER SCIENCE AND ENGINEERING**

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**CONTENTS**

|  |  |  |
| --- | --- | --- |
| S.No. | Title | Page No. |
|  | Declaration | ii |
|  | Acknowledgement | iii |
|  | List of Figures and Tables | iv |
|  | Abstract |  |
| 1 | Introduction | 1 |
| 2 | Methodology |  |
| 3 | Tools and Technologies |  |
| 4 | Implementation |  |
| 5 | Major Findings/Outcomes/Output/Results |  |
| 6 | Conclusion and Future Scope |  |
|  | References |  |
|  | Appendices |  |

**DECLARATION**

We hereby declare that the project work titled, ShopSavvy submitted as part of Bachelor’s degree in CSE, at Chitkara University, Punjab, is an authentic record of our own work carried out under the supervision of Dr. Gurpreet Singh.

**Signature(s):**

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**ABSTRACT**

1. **Problem statement**

In today's fast-paced world of online shopping, many of us crave a more personalized, secure, and sustainable experience. It often feels like existing e-commerce sites miss the mark, leaving us frustrated with impersonal interfaces, concerns about security, and a lack of options for shopping ethically. We're left yearning for a platform that truly understands our needs and values, while also making us feel safe and empowered in our purchasing decisions. It's clear that there's a gap in the market for a fresh approach—one that combines cutting-edge technology with a deep understanding of what we, as shoppers, really want. We're looking for a solution that not only helps us find what we're looking for but also makes us feel good about our choices and the impact they have.

1. **Introduction**

ShopSavvy is a pioneering e-commerce platform that sets out to redefine the online shopping experience. It integrates user-centric design, advanced technology, and a robust methodology to provide an exceptional shopping journey. With a focus on personalization, security, and

sustainability, ShopSavvy is committed to becoming the go-to destination for modern shoppers.

This app is intended to be a scalable and reliable solution for shopping, with the ability to handle a large number of users and orders without degrading performance or availability. The app is also designed to be easy to use and maintain, with a modular architecture and well-documented codebase.

1. **Methodology**

The methodology section outlines the systematic approach that will be followed develop the ShopsSavvy using the Front End and Back End development. It details the various stages of the development process, from initial planning and requirements gathering to deployment and maintenance.

**1. Requirements Gathering:**

* Defining the scope and goals of the our platform.
* Gathering requirements by understanding user needs, preferences, and expectations.
* Identify key features such as user registration, menu browsing, adding items to cart, form-submissions and more.

**2. System Design:**

Once the requirements are gathered, the system design phase begins. The design should prioritize user experience (UX) and accessibility while ensuring scalability, security, and maintainability of the system.

**3. Front-end and Back-end Development:**

Using React.js, the front-end development phase involves translating the design mockups into interactive user interfaces. Components such as forms, tables, and dashboards are developed to facilitate user interactions. The front-end should be responsive, intuitive, and visually appealing, adhering to best practices in web development and accessibility standards. Node.js for handling database requests and routing requesting.

**4. Testing:**

Throughout the development process, rigorous testing is conducted to ensure the quality and reliability of the ShopSavvy. Unit tests, integration tests, and end-to-end tests are performed to identify and fix any bugs or issues. These tests are conducted with real users to gather feedback and validate the system against the original requirements.

**5. Deployment:**

Once testing is complete and the ShopSavvy is deemed ready for production, it is deployed to a hosting environment using platforms such Vercel, Netlify. Deployment involves configuring servers, setting up environment variables, and deploying application code. Continuous integration and continuous deployment (CI/CD) pipelines

1. **Tools and Technologies:**

**1. React:** A JavaScript library for building user interfaces, providing a modern and

responsive frontend for ShopSavvy.

**2. Node.js:** Node.js (JavaScript) will be used for server-side rendering and its versatility in building full-stack applications.

**3. TailwindCSS:** A popular CSS framework for implementing consistent and

visually appealing user interface components.

**4.Git and Github:** Platform for version control and hosting the website on Vercel, providing scalability, reliability, and security for the deployed application.

1. **Implementation:**

In this section, we will delve into the code implementation of ShopSavvy and discuss the core technologies that enable the website in retrieval of data.

The front-end of the website is built using React, a JavaScript library for building user interfaces and Node.js for server side rendering . React enables the creation of reusable UI components and provides efficient rendering through its virtual DOM. The main components of the front-end structure include:

* **User Interface:**

The UI components in our website are responsible for displaying the website's layout, including menus, about and contact authentication forms. These components are built using React and styled using TailwindCSS or a CSS-in-JS solution such as styled- components.

* **State Management:**

Our website's state management is handled through libraries such as Redux or

React Context API. These libraries enable centralized management of

application state, including user authentication, cart items, and other state variables. Redux provides a predictable state container, while Context API

offers a lightweight alternative.

* **API integration:**

To communicate with the live servers, the front-end utilizes axios to connect to backend and Fetch data in the form of json and handle responses. API integration allows the front-end to retrieve data such as shopping items and stores.

* **Routing:**

The React Router library is employed for handling client-side routing allowing the website to have multiple pages or views. This enables navigation between different sections of the website, such as the menu, cart, and user contact us etc.

* **Database:**

The database of our project is stored inside MySQL server which serves as data storage for any necessary data to be used.

1. **Major findings/Outcomes/Output/Results:**

The major findings, outcomes, and results of the ShopSavvy project include:

* **Increased Accessibility:** ShopSavvy has significantly improved access to stores by offering a user-friendly and inclusive platform accessible to individuals from geographical locations.
* **Promotion of Brands:** The introduction of discounted pricing for shopping items on ShopSavvy has incentivized orders and promoted various brand’s reputation.
* **Positive User Feedback:** User feedback and engagement metrics indicate a high

level of satisfaction with ShopSavvy’s features and functionality. Positive reviews, increased user engagement, and growing user participation are indicative of

the project's success in meeting user needs and expectations.

1. **Conclusion and Future scope:**

ShopSavvy isn't just another online store, it's a game-changer. It's all about putting you, the shopper, at the centre of the experience. With ShopSavvy, it's not just about finding what you need, it's about finding it in a way that's personal, secure, and sustainable.

By listening to your feedback and constantly improving, ShopSavvy has become more than just a website. It's a place where you can feel confident in your choices, knowing that your data is safe and your purchases make a positive impact.

So, if you're ready to shop smarter and feel good about it, join us on ShopSavvy. Let's make the future of online shopping one that's personalized, secure, and sustainable for all of us.

**Future Scope:**

* **Enhanced User Experience: C**ontinuously improving the user interface an navigation to make it more intuitive and user-friendly.
* **Mobile Application Development:** Developing a mobile application for ShopSavvy

to reach a wider audience and provide users with greater accessibility and convenience.

* **Additional Features:** Adding new features such as grocery store, tracking progress

and customizable order lists to enhance the user experience and engagement.

* **Accessibility Improvements:** Ensuring accessibility standards compliance and implementing features to make ShopSavvy accessible to users with disabilities.
* **Performance Optimization:** Continuously optimizing the performance of the

platform to ensure fast load times, smooth navigation, and reliable operation.

**REFERENCES**

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